

ABSTRACT OF THE DISCLOSURE

A phase change memory device is provided which is constituted by memory cells using memory elements and select transistors and having high heat resistance to be capable of an operation at 140 degrees or higher. As a device configuration, a recording layer of which, of Zn-Ge-Te, content of Zn, Cd or the like is 20 atom percent or more, content of at least one element selected from the group consisting of Ge and Sb is less than 40 atom percent, and content of Te is 40 atom percent or more is used. It is thereby possible to implement the memory device usable for an application which may be performed at a high temperature such as an in-vehicle use.